

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT
TRANSLATION

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

| | | |
|---|---|---|
| | | Date of mailing (day/month/year) |
| Applicant's or agent's file reference D04-ZW465CT1 | | FOR FURTHER ACTION See paragraph 2 below |
| International application No. PCT/JP2005/000230 | International filing date (day/month/year) 12.01.2005 | Priority date (day/month/year) 13.01.2004 |
| International Patent Classification (IPC) or both national classification and IPC | | |
| Applicant DAIKIN INDUSTRIES, LTD. | | |

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

| | |
|--|--------------------|
| Name and mailing address of the ISA/JP | Authorized officer |
| Facsimile No. | Telephone No. |

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/JP2005/000230

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material
 in written format
 in computer readable form
 - c. time of filing/furnishing
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

| |
|---|
| International application No. PCT/JP2005/000230 |
|---|

| | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------|---------------------|--------|------|-----|--|--------|--|----|---------------------|--------|-------------|-----|--|--------|---------------------|----|-------------------------------|--------|------|-----|--|--------|--|----|
| Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>1. Statement</p> <table> <tr> <td align="center">Novelty (N)</td> <td align="center">Claims</td> <td>1-13</td> <td align="center">YES</td> </tr> <tr> <td></td> <td align="center">Claims</td> <td></td> <td align="center">NO</td> </tr> <tr> <td align="center">Inventive step (IS)</td> <td align="center">Claims</td> <td>2, 6, 8, 12</td> <td align="center">YES</td> </tr> <tr> <td></td> <td align="center">Claims</td> <td>1, 3-5, 7, 9-11, 13</td> <td align="center">NO</td> </tr> <tr> <td align="center">Industrial applicability (IA)</td> <td align="center">Claims</td> <td>1-13</td> <td align="center">YES</td> </tr> <tr> <td></td> <td align="center">Claims</td> <td></td> <td align="center">NO</td> </tr> </table> <p>2. Citations and explanations:</p> <p>Document 1: JP, 2003-53129, A (Daikin Industries, Ltd.), 25 February, 2003 (25.02.03), full text, Figs. 1-14</p> <p>Document 2: JP, 8-179590, A (Sharp Corp.), 12 July, 1996 (12.07.96), full text, Figs. 1-18</p> <p>Document 3: JP, 2002-198160, A (Toyota Central Research and Development Laboratories, Inc.), 12 July, 2002 (12.07.02), full text, Figs. 1-8</p> <p>Claims 1 and 13 Document 1 describes an air cleaning apparatus that performs streamer discharge between a discharge electrode and an opposite section. Document 2 describes a discharge device in which a resistor intervenes between a discharge electrode and a power supply for stabilization of discharge. It is considered to be obvious for a person skilled in the art to install a resistor between a power supply and the discharge electrode of the air cleaning apparatus of document 1, as described in document 2.</p> <p>Claims 3-5 Document 2 describes a discharge device, in which a discharge electrode is supported by a resistor with a volume resistivity of 300 MΩ to 1500 MΩ. It is considered to be obvious for a person skilled in the art to support the discharge electrode of the air cleaning apparatus of document 1 by a resistor with a high resistance as described in document 2.</p> <p>Claims 7 and 9-11 Document 1 describes an air cleaning apparatus that performs streamer discharge between a discharge electrode and an opposite section. Document 2 describes a discharge device in which a resistor intervenes between a discharge electrode and a power supply for stabilization of discharge.</p> <p>Document 3 describes a minus ion generator, in which a positive electrode facing a discharge electrode is provided with a resistance section, to let a resistor exist in the space against a power supply. So, it is considered to be obvious for a person skilled in the art (1) to install a resistor between a power supply and the discharge electrode of the air cleaning apparatus of document 1 for stabilization of discharge as described in document 2, and further (2) to dispose the resistor between the power supply and the opposite section facing the discharge electrode as described in document 3.</p> <p>Claims 2, 6, 8 and 12 None of documents 1-3 describes or suggests the technique in which a resistor is made of a conductive resin material capable of being molten at a temperature lower than an ignition temperature.</p> | | Novelty (N) | Claims | 1-13 | YES | | Claims | | NO | Inventive step (IS) | Claims | 2, 6, 8, 12 | YES | | Claims | 1, 3-5, 7, 9-11, 13 | NO | Industrial applicability (IA) | Claims | 1-13 | YES | | Claims | | NO |
| Novelty (N) | Claims | 1-13 | YES | | | | | | | | | | | | | | | | | | | | | | |
| | Claims | | NO | | | | | | | | | | | | | | | | | | | | | | |
| Inventive step (IS) | Claims | 2, 6, 8, 12 | YES | | | | | | | | | | | | | | | | | | | | | | |
| | Claims | 1, 3-5, 7, 9-11, 13 | NO | | | | | | | | | | | | | | | | | | | | | | |
| Industrial applicability (IA) | Claims | 1-13 | YES | | | | | | | | | | | | | | | | | | | | | | |
| | Claims | | NO | | | | | | | | | | | | | | | | | | | | | | |

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

PCT
TRANSLATION

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

| | | | |
|---|---|---|-------------------------------------|
| | | | Date of mailing (day/month/year) |
| Applicant's or agent's file reference D04-ZW465CT1 | | FOR FURTHER ACTION See paragraph 2 below | |
| International application No. PCT/JP2005/000230 | International filing date (day/month/year) 12.01.2005 | Priority date (day/month/year) 13.01.2004 | |
| International Patent Classification (IPC) or both national classification and IPC | | | |
| Applicant DAIKIN INDUSTRIES, LTD. | | | |

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

| | |
|--|--------------------|
| Name and mailing address of the ISA/JP | Authorized officer |
| Facsimile No. | Telephone No. |

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/JP2005/000230

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
 a sequence listing
 table(s) related to the sequence listing
 - b. format of material
 in written format
 in computer readable form
 - c. time of filing/furnishing
 contained in the international application as filed.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority for the purposes of search.
3. In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT / JP2005/000230

| | | | |
|-------------------------------|---|---------------------|-----|
| Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement | | |
| 1. Statement | | | |
| Novelty (N) | Claims | 1-13 | YES |
| | Claims | | NO |
| Inventive step (IS) | Claims | 2, 6, 8, 12 | YES |
| | Claims | 1, 3-5, 7, 9-11, 13 | NO |
| Industrial applicability (IA) | Claims | 1-13 | YES |
| | Claims | | NO |

2. Citations and explanations:

Document 1: JP, 2003-53129, A (Daikin Industries, Ltd.), 25 February, 2003 (25.02.03), full text, Figs. 1-14

Document 2: JP, 8-179590, A (Sharp Corp.), 12 July, 1996 (12.07.96), full text, Figs. 1-18

Document 3: JP, 2002-198160, A (Toyota Central Research and Development Laboratories, Inc.), 12 July, 2002 (12.07.02), full text, Figs. 1-8

Claims 1 and 13

Document 1 describes an air cleaning apparatus that performs streamer discharge between a discharge electrode and an opposite section. Document 2 describes a discharge device in which a resistor intervenes between a discharge electrode and a power supply for stabilization of discharge. It is considered to be obvious for a person skilled in the art to install a resistor between a power supply and the discharge electrode of the air cleaning apparatus of document 1, as described in document 2.

Claims 3-5

Document 2 describes a discharge device, in which a discharge electrode is supported by a resistor with a volume resistivity of 300 MΩ to 1500 MΩ. It is considered to be obvious for a person skilled in the art to support the discharge electrode of the air cleaning apparatus of document 1 by a resistor with a high resistance as described in document 2.

Claims 7 and 9-11

Document 1 describes an air cleaning apparatus that performs streamer discharge between a discharge electrode and an opposite section. Document 2 describes a discharge device in which a resistor intervenes between a discharge electrode and a power supply for stabilization of discharge.

Document 3 describes a minus ion generator, in which a positive electrode facing a discharge electrode is provided with a resistance section, to let a resistor exist in the space against a power supply. So, it is considered to be obvious for a person skilled in the art (1) to install a resistor between a power supply and the discharge electrode of the air cleaning apparatus of document 1 for stabilization of discharge as described in document 2, and further (2) to dispose the resistor between the power supply and the opposite section facing the discharge electrode as described in document 3.

Claims 2, 6, 8 and 12

None of documents 1-3 describes or suggests the technique in which a resistor is made of a conductive resin material capable of being molten at a temperature lower than an ignition temperature.